(19) World Intellectual Property Organization International Bureau



| <u>| 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888 | 1888</u>

(43) International Publication Date 5 April 2007 (05.04.2007)

(10) International Publication Number WO 2007/037034 A1

(51) International Patent Classification:

H04N 13/04 (2006.01)

(21) International Application Number: PCT/JP2006/309189

26 April 2006 (26.04.2006) (22) International Filing Date:

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 2005-283478 29 September 2005 (29.09.2005)

(71) Applicant (for all designated States except US): Kabushiki Kaisha Toshiba [JP/JP]; 1-1, Shibaura 1-chome, Minato-ku, Tokyo, 1058001 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): FUKUSHIMA, Rieko [JP/JP]; c/o Intellectual Property Division, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo, 1058001 (JP). SAISHU, Tatsuo [JP/JP]; c/o Intellectual Property Division, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo, 1058001 (JP). NUMAZAKI, Shunichi [JP/JP]; c/o Intellectual Property Division, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo, 1058001 (JP). HIRAYAMA, Yuzo [JP/JP]; c/o Intellectual Property Division, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo, 1058001 (JP). TAIRA, Kazuki [JP/JP]; c/o Intellectual Property Division, Toshiba Corporation, 1-1, Shibaura 1-chome, Minato-ku, Tokyo, 1058001 (JP).

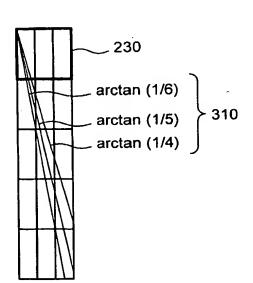
- (74) Agent: SAKAI, Hiroaki, Sakai International Patent Office, Kasumigaseki Building, 2-5, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo, 1006019 (JP).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: THREE-DIMENSIONAL IMAGE DISPLAY DEVICE, THREE-DIMENSIONAL IMAGE DISPLAY METHOD, AND COMPUTER PROGRAM PRODUCT FOR THREE-DIMENSIONAL IMAGE DISPLAY



(57) Abstract: Autostereoscopic display with inclined Penticular sheet and observer tracking. A three-dimensional image display device includes a two-dimensional image display screen having color filters in which each color is disposed on sub-pixels obtained by dividing one pixel in a vertical direction and same color is disposed on each column of sub-pixels; an optical plate having an exit pupil, the exit pupil being provided for making a viewing zone different for each pixel and having a longitudinal axis disposed as to be inclined from a vertical direction of the two-dimensional image display screen at a degree (θ) (0, $-45 < \theta < 45$), the viewing zone being a region in which parallax information displayed on the two-dimensional image display screen is observed; and a viewing zone adjusting unit that adjusts the viewing zone by shifting the viewing zone in a horizontal direction of the two-dimensional image display screen by shifting the parallax information disposed on each pixel of the two-dimensional image display screen in the vertical direction by pixel.

WO 2007/037034 A1 ||||||||||||||